A Change of Fate: Codex

by DX1998

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Summary: Entries into the SGC/UNSC Codex. Companion to the main

story, all technological aspects are included here.

1. The UNSC

AN: I apologize on the wait for an update to the main A Change of Fate story. I've been swamped with school-related problems so I haven't had as much time to type as I would like.

That being said, I decided (upon seeing a reviewer having a 'Codex Story') that I would just post the Codex in a story format (with its own 'thread'). It isn't that long though, since this was originally intended for my own use, and I had to modify it somewhat to actually fit a story format. There will be notes at the end of each chapter explaining my reasoning. For now though, on to the first entry!

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>UNSCSGC Codex**

Compiled by Dr. Catherine Halsey and Colonel Samantha Carter.

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Codex Entry One: UNSC

**Weapon Systems: **

_Magnetic Accelerator Cannon (MAC): _The main weapon on any given

UNSC warship, even with the advent of new plasma and ion weaponry. Firing a depleted uranium shell, it is the only non-nuclear weapon that can reliably penetrate Covenant shielding.

(Note: Beginning with UNSC _Pillar of Autumn_ the depleted uranium shell is being phased out in favor of a shell with a ferrous core and a tungsten carbide shellâ€"Dr. Halsey)

The drawback to this weapon system is the large charge time, and the ability for a sufficiently agile opponent to dodge the shell. The pure power behind the weapon has secured its place however.

Goa'uld Staff (Plasma) Cannon: The first of the new weapon systems to be fitted on USNC warships, the Goa'uld Staff Cannon (generally referred to as a 'Plasma' Cannon by the UNSC, Forerunner and Covenant) is a fast firing and accurate weapon. Unlike Covenant Plasma Torpedoes, the Staff Cannon uses rapid-fire bolts of condensed plasma. This leads to a larger volume of fire, but the individual bolts are less powerful due to their smaller size and less power being routed to the weapon. After modifications by the AI Cortana, these weapons are a threat to all but the largest Covenant warships. More effective against shielding systems than hull armor.

Mark 2 Railgun: Only fitted on a handful of smaller warships, this is an improvement on the Railgun emplacements fitted to the USS _Odyssey_. Mostly used for point-defense against Covenant Seraph fighters, and their smaller Space Banshee counterparts.

Point-Defense Ion Gun: Fitted to larger UNSC ships, these are based on an obsolete Asgard design. Built on a smaller scale, the PD-Ion Gun is used for engaging enemy fighters and boarding craft. Due to its advanced design, it is able to destroy a Seraph fighter in a single solid hit.

Archer Missile: Standard UNSC ship-board missile system. Ineffective against Covenant shielding, but is capable of doing severe damaged to unshielded craft. Plans are in place to fit naquadah enhanced warheads, but this is on hold until a larger supply of the mineral can be found.

Defensive Systems:

_Titanium-A Armor: _ The standard armor used on UNSC warships. Effective against lighter Covenant weaponry, and capable of at least slowing down Plasma Torpedoes.

(Note: On further review, this armor is believed to be more effective than the armor used on the _Odyssey_. Likely could take fire from Goa'uld weaponryâ€"Colonel Carter)

Goa'uld Shield Grid: The first shield to be fitted on UNSC warships. A Type 1 shield system, it is effective against Covenant Plasma Torpedoes, however, Energy Projectors render it useless. Still provides greater survivability to UNSC warships than previously thought possible.

Point-Defense Grid: Defense against fighter craft and bombers. Generally made up of a mixture of UNSC-designed 50mm autocannons, SGC designed Railgun Mark II's, and modified Asgard Ion Guns.

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**_End Entry
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Redirect to Entry Two: The Covenant

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>AN: Now then, to explain some reasoning here. The MAC hasn't really changed, and the same can be said for the Archer missiles. But, I did do some work on Goa'uld weaponry. For instance, the fact I stubbornly stay away from any mention of firepower numbers. Why you may ask? Because firepower numbers and visuals are all over the bloody place. 200 megatons is the only 'hard' number we have on Goa'uld Staff Cannons. We don't see that high of firepower though, (of course, being beam weapons it wouldn't equate to a nuclear explosion like most people assume when they hear 'megaton') and even if we did, it would mean that it would be a case of the _Goa'uld_ being able to curbstomp the Covenant, considering how low Halo's numbers are these days.

Thus, I am going to avoid using any 'hard' numbers for any weapons, to avoid canon debates. I will go more from visuals and observed effects, with some 'adjustments' here or there for story purposes.

That being said, the main reason I say Goa'uld weaponry is inferior to Covenant weaponry is, again, from observed effects. A Plasma Torpedo is capable of gutting a 500 meter long Frigate with a single shot. Compare to Wraith weaponry (closest to Goa'uld weaponry we see used on unshielded hulls without the ship already being damaged) which can't even take down a ship half that size before it can raise its shields (happens to the _Daedalus_ (I believe) in Atlantis). This also ties into my 'more effective on shields than hull' bit. Goa'uld weaponry is perfectly capable of taking down even Asgard shields with enough concentrated firepower. But it has problems doing the same to heavily armored hulls in the same way the Covenant can.

See Anubis' (first) mothership. While the Staff Cannons on Ba'al's ships can punch clean through the ships hull easily enough, they can't cripple it in a single shot like a Plasma Torpedo could (given good targeting). Whereas a Plasma Torpedo needs more than one hit to get through a ship's shield, despite how effective it may be on

armor. And oh boy, are they strong on armor. But that will be in the next chapter (which should be up right after this one). And don't worry, after the Forerunner (chapter 3) entry, I'll explain why I called Goa'uld shields 'Type 1'.

2. The Covenant

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**AN: Second entry is now up.**

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**_Codex Entry Two: The
Covenant_**

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Plasma Torpedo: Main weapon of the Covenant Space Forces. The Plasma Torpedo is a massive bolt of un-condensed plasma, guided along a magnetic path to its target. This allows it to be 'steered' to the target, allowing greater potential accuracy than UNSC or Goa'uld weaponry. Plasma Torpedoes are considered to be a threat to anything below Asgard **(and Forerunner)** technology, especially to an unshielded hull, where the plasma will melt through armor, regardless of thickness.

Pulse Laser: The Point-Defense system used on Covenant warships. Fires blue beams that resemble Asgard weapons fire, at a rate sufficient to defeat even Archer Missiles. This is a large reason why the Archer's are a secondary weapon on modern UNSC warships. Pulse Laser systems are, however, next to useless against warship-grade armor/shields.

Energy Projector: The most powerful weapon in the Covenant arsenal is the Energy Projector. Fitted to a handful of classes (M-CCS Supercruiser, CAS Assault Carrier and CSO Supercarrier), this weapon has proven capable of 'sniping' even the largest of UNSC ships. Firing a condensed beam of energy, the Energy Projector has shown itself as able to pierce Goa'uld shields with ease. This has lead to ships equipped with this weapon to become primary targets for UNSC fleets. This weapon is most likely a match for an Ori Mothership's main cannon.

**Weapon Systems: **

^{**}Defense Systems: **

Covenant Shield: Based on ancient Forerunner technology, Covenant shields are the first type of energy shield to be encountered by the UNSC. These shields are of the hull-hugging Type 2 variety, and have the power to withstand anything short of a Super MAC shell or large nuclear weapon. Though smaller ships are vulnerable to ship-based MAC weaponry, and even larger ships can only take so much punishment.

Power Systems:

This is the one area the Covenant are decidedly ahead of the UNSC in (even with the upgrades). While their power-generation systems are mostly unknown (no ship has been captured with a working reactor) it is believed to be based on Forerunner technology. The power output of these reactors is astronomical, especially on the CSO-class Supercarrier. The power needed to simply move a ship of that size is far in excess of anything short of a ZPM.

Covenant Society:

The Covenant are a conglomeration of several different species. Each with a unique culture and place in the overall hierarchy. With help from the Forerunner Monitor 007 Grieving Light, the UNSC has compiled all available information on these races.

'Prophets'/ San 'Shyuum: The leadership race in the Covenant, the San 'Shyuum (UNSC designation, 'Prophet') are physically frail creatures that appear to rely on anti-gravity devices for movement over long distances. The most fanatical race in their misguided devotion to the Forerunner's and the Halo Array, the San 'Shyuum are the root cause of the war with the Covenant. As near as can be gathered, they are the ones pushing the hardest for the extermination of Humanity, though this is merely conjecture at this point. 007 Grieving Light is currently on a mission to make contact with the San 'Shyuum homeworld in an effort to end the war.

'Elites' Sangheili: The main military force of the Covenant is formed by the Sangheili, or Elites. Large bipedal aliens, the Sangheili are imposing figures, the higher ranking members of the race a match for the 'average' Spartan. Not much is known about their culture, their race not coming to prominence until after the Halo Event.

'Jackal'/Kig-Yar: The second highest ranked race in the Covenant military is the Kig-Yar (Jackal) race. Smaller and weaker than the Sangheili, they make up for this in their speed and intelligence. Kig-Yar are also the only race to maintain their own separate ship designs compared to the mainline Covenant military, though they are merely small privateer vessels. Another race that did not come to prominence until the Covenant discovered them.

'Grunt'/Unggoy: The lowest ranked combat force in the Covenant military, the Unggoy are small, physically weak cowards. While some members of their race are a match for the higher-ranked Kig-Yar, the Unggoy are generally considered cannon-fodder in anything but large numbers. In large numbers however, they are fully capable of running over Marine positions, even over mountains of their own dead.

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>AN :Second entry down. Not as much to work on in this chapter, but still some important points to make. As I said in the first 'entry', Plasma Torpedoes have shown themselves to be _absurdly_ effective against unshielded hulls. Unless you happen to be in a _Halcyon_ class ship, PT's are fully able to gut your ship, regardless of armor. More armor certainly helps, but if you get hit in a weak spot, God help you.

And, the thing that's certainly going to have people jumping down my throat...the Energy Projector=Ori Beam weapon bit. The reasoning behind this is quite simple really..._have you seen what an Energy Projector can do?_ When a weapon can cleave a kilometer long ship in half, from a range that would make the Ori quite jealous, it isn't that unreasonable an assumption to make. Even disregarding that though, its mainly to give the Covenant a fighting chance. It would still take a supercarrier to do so, but even a ZPM powered _Odyssey_ would have trouble taking hits from the equivalent of _seven_ Ori Beam Weapons. It might not be completely accurate, but from what I've read/seen, it seems to work. It even works when you compare an Ori weapon and an EP firing on the surface of a world. Look at an Energy Projector in glassing mode, and compare it to when Adria's ship fired on Dakara. Not as much difference as one would expect.

As for power systems, I wasn't joking when I wrote what I did about the Supercarrier. The thing is twice the size of a _Hive Ship_ for Forerunner's sake. Just the energy needed to move the thing is going to be massive. Then you have shields, life support, the Slipspace drive, and God only knows how many weapons. As much as we may love to laugh at the Covenant, the power needed here is leagues above and beyond what the Goa'uld or even the Wraith can do.

Next entry (Forerunner) up as soon as I can get it typed into here.

3. Forerunner

AN: Sorry this was delayed. Much the same reason as the story proper...laptop issues. It's not that long, and I'm sorry for that. But there isn't _much_ to go off of with the Forerunner. In any case, I'll explain my reasoning at the bottom as always.

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>UNSCSGC Codex**

Compiled by Dr. Catherine Halsey and Colonel Samantha Carter.

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**Codex Entry Three: Forerunner**

Weapon Systems:

Hardlight: The most prolific Forerunner weapons are the Sentinel beam and its larger counterparts on the Keyship _Ecumene_. They appear to function by using hardlight 'projectiles' and beams. These weapons are devastatingly effective, ripping through Covenant shields like butter. The weapons are hard to produce however, limiting any deployment by UNSC forces.

Needle Cannon: Mounted on larger Sentinel models, this appears to be a scaled up version of the Covenant Needler/Needle Rifle. The NC fires the same projectiles as its smaller cousins, but with devastating effectiveness. This weapon is fully capable of destroying a Wraith tank in a few direct hits.

_Halo__ Array:_ Easily the most dangerous of Forerunner weaponry. The Seven Halo Rings are each capable of wiping out all sentient life within a 25,000 light year radius of the Installations. If all seven were to be fired at once, it would mean the end of all galactic civilizations, as there is no known defense against the power of a Halo.

**Defense Systems: **

Energy Shield: Broadly similar to the Covenant shielding systems, Forerunner shields are Type 2. As Covenant shields are reverse-engineered from Forerunner examples, we can extrapolate that the older shields are similar in function. They far outstrip anything the Covenant has in power however. A Forerunner Keyship can take more fire than even the much larger Supercarrier.

Power Supply: Placed in this category for the effect it has on the strength of the shields. Forerunner energy systems are highly advanced. Pound for pound, they are nearly as powerful as Ancient power systems, and more advanced than the Asgard's equivalent. A single power-room on a Halo Installation can put out more power than 2-3 ZPM's.

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_**End Entry Three**_
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_**Redirect to Entry Four: Energy Shields**_
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><strong>AN: And here we go:<strong>
**First...the weapons. I don't think anyone will argue with me on how
effective they are. By all accounts, Forerunner ship-based weapons
should make mincemeat of Covenant ships.**
**Second: Forerunner power supplies really _are_ that effective. Just
think about the amount of power needed to supply a death machine that
can obliterate all sentient life within _25 thousand light years_.
I'm sorry, but it _has_ to take several power rooms, each with the power of several ZPM's. The closest thing we have in Stargate is the
Dakara Device, which needs the Stargates to spread its effect outside
of Dakara itself.**
    4. Energy Shields
**AN: And now we get to the shields, and what I've been saying when I
say 'Type *insert number*'.**
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><strong>UNSCSGC Codex**
**Compiled by Dr. Catherine Halsey and Colonel Samantha
Carter. **
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**_Codex Entry Four: Energy Shields_**
_Types of Energy Shield:_
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To date, the UNSC and SGC have encountered three definitive types of Energy Shield systems.

Type 1:

Also known as a 'Bubble Shield'. A Type 1 shield forms a bubble around its source, giving 360 degree coverage, and keeping fire away from the hull of a ship. This type of shield is designed to take rapid-fire from multiple directions, and thus, does not have 'zones' that power can be directed to. The entire shield is powered from the same source, and loses power at an even rate. A sufficiently powerful attack can render the shield useless, though more power increases the strength.

Examples: Goa'uld, Asgard

Type 2:

Also known as a 'hull-hugger', a Type 2 shield is subdivided into 'zones' spread over a ship's hull. Unlike a Type 1, this shield is designed to take heavy impacts, and redirect the damage across the whole shield, while power is directed to the damaged portion. However, enough powerful impacts in rapid succession can down this shield very quickly, e.g. the new model MAC aboard the UNSC _Pillar of Autumn_ or Goa'uld Staff Cannons.

Examples: Covenant, Forerunner

Type 3:

The 'barrier shield' sub-type. Similar in appearance and function to the Type 1 shield, there are key differences. A barrier shield is also designed to take many impacts from multiple directions, with the major difference in how it does so. Where a Type 1 will slowly lose power (percentage of shield strength), a Type 3 will stay at full power as long as its power supply holds out. The only way to negate this is with a very powerful and focused attack, such as an Asgard Plasma Beam, or by shield-bypassing technology like an Ancient Drone.

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_Examples: Atlantis,
Ori_

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Redirect to Entry Five: Asgard

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>AN: My reasoning here is rather simple, and explained in the chapter. When one looks at StargateHalo, three types of shields pop to mind (at least on ships). The Goa'uld and Asgard use a shield that can take a bunch of rapid-fire shots, and slowly gets knocked down by percentage. And a sufficiently powerful (Ori) attack can pierce it in one hit. It also explains why Staff Cannons work the way they do...they are designed to take down a Type 1 shield, since the Goa'uld can't make a weapon strong enough to do it in one hit.**

As for Type 2 shields...the Covenant and Forerunner use a 'hull-hugging' shield, that seems to be quite fundamentally different in design. It can take large impacts (MAC shells), though a large enough one (Super MAC) can still get through. It, however, is _very_ vulnerable to rapid-fire hits. That's why the _Pillar of Autumn_ is so effective against them.

And finally...Type 3 'barrier shields'. If one looks at Atlantis and Ori ships, it seems like they can't be brought down by conventional means, so long as they have power. Just look at Atlantis...they never say 'it's down to *insert percentage*!'. It's always 'the shield will last for *insert number of hours/days/weeks*'. The Ori shields seem to function the same way. The only way to get through this type of shield is a LOT of concentrated firepower, or a condensed attack like a Plasma Beam.

End file.